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THE
ONTARIO WATER RESOURCES
COMMISSION

WATER POLLUTION SURVEY

of the

TOWN OF ORANGEVILLE

COUNTY OF DUFFERIN

1966

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1966
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Report on a water pollution
survey of the town of Orangeville
in the county of Dufferin.

80310

REPORT

on a

WATER POLLUTION SURVEY

of the

TOWN OF ORANGEVILLE

COUNTY OF DUFFERIN

February, 1966.

The Division of Sanitary Engineering

INDEX

<u>SECTION</u>	<u>PAGE NO.</u>
INTRODUCTION	1
I GENERAL	1
(1) Location	1
(2) Drainage	2
II WATER USES	2
(1) Municipal Water Works	2
(2) Private Water Systems	3
(3) Industrial Water Supplies	3
(4) Recreational Uses	3
(5) Agricultural Uses	3
III WATER POLLUTION	3
(1) Waste Disposal-Existing Conditions	3
(2) Orangeville Water Pollution Control Plant	4
(a) WPCP Sample Results	4
(b) WPCP Flow Data	5
(c) Proposed Secondary Treatment Unit Extension	6
(d) Additional Sewage Flow	6
(e) By-passing	7
(f) WPCP Outfall Study - Beaver Dam	7
(3) Refuse Disposal	8
(4) Industrial Waste Disposal	8
(a) Gillespie's Dairy	8
(b) Filtro Electric Company Limited	8
(c) McCord Corporation	9
(d) Remaining Industries	10
(5) Discussion of Laboratory Results	10
IV SUMMARY AND CONCLUSIONS	12
V RECOMMENDATIONS	14
APPENDIX	
TABLE I - SAMPLE ANALYSES	
MAP OF THE TOWN OF ORANGEVILLE	

THE ONTARIO WATER RESOURCES COMMISSION

REPORT

INTRODUCTION

The purpose of this survey was to locate and record all significant sources of water pollution within the Town of Orangeville. Surveys of this nature are conducted routinely and upon request throughout the Province of Ontario, by the Ontario Water Resources Commission. This forms a basis for evaluating any existing or potential sources of pollution.

Recommendations are made pertaining to water pollution abatement, and the Commission expects that corrective measures will be taken by those concerned.

The field work was performed on August 25, September 2, 3 and December 15, 1965. Mr. R.B. Lackey, Clerk-Treasurer of the Town of Orangeville, was interviewed at this time. The co-operation received from the municipal officials is appreciated.

I GENERAL

(1) Location

The Town of Orangeville, with a population of 5,200, is located in the County of Dufferin, approximately 40 miles north-west of Metropolitan Toronto.

Physiographically, Orangeville lies in an undulating terrain. The overburden consists of sand, gravel and clayey till. This type of overburden may cause difficulties in achieving subsurface

disposal of wastes. The bedrock, under the main part of town, consists of limestone, at depths of varying from 15-120 feet.

(2) Drainage

The Town of Orangeville lies within the watershed of the Credit River, which rises in a swampy area to the north-east of the town. The Credit River flows in a southerly direction, draining the eastern section of the town via open ditches and storm sewers, and eventually discharges to Lake Ontario.

A watercourse flowing in an easterly direction through the town, drains the southern portion and discharges to the Credit River. This stream is designated as the Orangeville Branch.

Another tributary begins at a spring north-west of the Orangeville Water Pollution Control Plant (WPCP) and flows in a southerly direction, to its confluence with the Credit River. For the purpose of this report, this watercourse is called the Credit River tributary. The WPCP by-pass discharges to this stream, just south of the Town Line.

II WATER USES

(1) Municipal Water Works

Water is taken from three wells and a spring, then pumped to the distribution system. No treatment is provided. Chemically, the water is hard.

A standpipe is used to provide storage and uniform pressure throughout the system. The water mains are flushed routinely for removal of sediments.

(2) Private Water Systems

There are no known private water systems in the Town of Orangeville that would be covered under the OWRC Act.

(3) Industrial Water Supplies

Gillespie's Dairy obtains processing and domestic water from their own drilled well. This industry will be fully discussed later in the report.

(4) Recreational Uses

Fishing is the main recreational use made of the waters in this area.

(5) Agricultural Uses

There is minimal, if any, agricultural use made of the surface waters in this area.

III WATER POLLUTION

(1) Waste Disposal

Existing Conditions

Domestic and industrial wastes from the Town of Orangeville are discharged to the communal sewage works. Gillespie's Dairy and the McCord Corporation are exceptions and these will be discussed later in the report. Drainage is provided for the town by the Credit River and its tributaries, which receive storm and

runoff waters via open ditches and storm sewers.

(2) Orangeville Water Pollution Control Plant

The WPCP is owned and operated by the OWRC for the Town of Orangeville. This plant provides complete treatment, employing the activated sludge process, for approximately 0.16 mgd, while primary treatment can be given to a sewage flow of 0.75 mgd. The design capacity of the activated sludge plant is 0.25 mgd. However, due to sludge bulking the plant is only capable of treating a reported 0.16 mgd. The effluent is chlorinated on a year-round basis and discharged to the Credit River.

(A) WPCP Sample Results

Summarized below are the laboratory results of samples collected from the raw sewage, secondary treatment plant effluent and the final effluent, during the year 1965, to date.

<u>Month</u>	<u>Raw Sewage</u> (ppm)		<u>Secondary Effluent</u> (ppm)		<u>Primary and Secondary (Mixed) Final Effluent</u> (ppm)	
	<u>BOD</u>	<u>S.S.</u>	<u>BOD</u>	<u>S.S.</u>	<u>BOD</u>	<u>S.S.</u>
January	180.0	125.0	6.2	5.0	42.0	51.0
April	78.0	30.0	3.6	6.0	70.0	37.0
June	245.0	238.0	13.0	8.0	38.0	74.0
September	260.0	166.0	15.0	8.0	49.0	58.0
AVERAGE	191.0	140.0	9.0	7.0	50.0	55.0

The average plant efficiency computed from the above samples submitted by the operating personnel is as follows:

Secondary Per Cent Reduction -	<u>BOD</u> 95.2	<u>S.S.</u> 95.0
(Mixed) Final Per Cent Reduction -	73.8	60.7

The Division of Sanitary Engineering field staff sampled the final chlorinated (mixed) primary and secondary effluent, with the following laboratory results:

<u>Date</u>	<u>BOD (ppm)</u>	<u>Solids</u>			<u>Coliforms per 100 ML Membrane Filter</u>
		<u>Total (ppm)</u>	<u>Susp. (ppm)</u>	<u>Diss. (ppm)</u>	
February 22/65	120	766	104	622	20
August 25/65	34	606	31	575	30

(B) WPCP Flow Data

Summarized below are the monthly sewage flow figures during the year 1965 to date, tabulated in millions of gallons (mg). Also shown is the per cent of the total flow receiving secondary treatment only.

<u>Month 1965</u>	<u>Total Flow to Plant (mg)</u>	<u>Total Flow Breakdown</u>			<u>Total Flow Rec. Secondary (Per Cent)</u>
		<u>Rec. Primary Only (mg)</u>	<u>Rec. Secondary Only* (mg)</u>	<u>Rec. Secondary (mg)</u>	
January	16.128	11.168	4.960	30.8	
February	16.347	11.867	4.480	27.4	
March	19.441	14.481	4.960	25.5	
April	24.919	20.119	4.800	19.2	
May	22.338	17.378	4.960	22.3	
June	14.448	9.648	4.800	33.2	
July	14.362	9.402	4.960	34.5	
August	13.753	8.793	4.960	36.0	
September	14.056	9.256	4.800	34.2	
AVERAGE	17.310	12.457	4.853	29.2	

* As noted previously in the report, the secondary treatment units monthly flow is calculated on a daily flow of 0.16 mg, not its design flow of 0.25 mgd.

(C) Proposed Secondary Treatment Unit Extension

With reference to the above it is evident on perusal of Table "A" that (i) the plant efficiency is low. The BOD and suspended solids constantly exceed the Commission's objective of 15 ppm for each. (ii) the effluent from the secondary treatment unit falls well within the Commission's aforementioned objectives.

Table "B" reveals that a monthly average of 29.2 per cent of the plant's total influent receives secondary treatment. This is due to the unit's low capacity of 0.16 mgd.

It is anticipated that the extension of the secondary unit to increase the capacity to 0.75 mgd will be implemented by the Town of Orangeville forthwith.

(D) Additional Sewage Flows

The municipal authorities have received requests to extend the sanitary sewerage system to service proposed developments within the town and an area in the Township of Mono. The Commission has been reluctant to approve any extension of the sanitary sewer system, until such time as the town has indicated that the enlargement of the secondary treatment facilities at the WPCP will be undertaken. However, a public health problem exists in a developed area of the Township of Mono, on the immediate northerly outskirts of Orangeville adjacent to Highway No. 10. It appears that this is due to the lack of suitable soil for individual septic tank and subsurface tile field systems.

In this instance, because of the public health problem involved, it is advisable to extend the town's sanitary sewers to service this area, providing that suitable arrangements can be made with all parties concerned.

(E) By-Passing

Considering that a reported 90 per cent of the storm and runoff water has been segregated by the provision of storm sewers and more adequate sanitary sewer catch basin road surface covers, there should be minimal by-passing of raw sewage at the WPCP. It was reported that by-passing of raw sewage occurs at times of exceptionally heavy precipitation to the Credit River tributary. This practice deteriorates the quality of this watercourse. A study should be made to determine the rate of infiltration in the sanitary sewer system and corrective measures taken where necessary. If by-passing of raw sewage becomes necessary, a minimum treatment of chlorine should be applied for disinfection purposes.

(F) WPCP Outfall Study - Beaver Dam

The final effluent from the WPCP is discharged to the Credit River. Restriction of the Credit River flow is caused by downstream obstructions in the form of a beaver dam. The beaver dam holds the water level above the WPCP outfall sewer. It was reported that due to impeded flow septic conditions have developed.

The Credit Valley Conservation Authority are contemplating construction of a Dam and Reservoir project at Orangeville. It was

reported that the project is to include the removal of the beaver dam.

(3) Refuse Disposal

The municipality operates a sanitary landfill site, in the north-east end of town, for disposal of domestic garbage. The site is approximately 250 yards from a seasonal watercourse. There was no evidence that this site could constitute a water pollution problem, at this time.

(4) Industrial Waste Disposal

(A) Gillespie's Dairy - is located in the south-east end of Orangeville. Sanitary wastes are treated, satisfactorily, by means of a septic tank and subsurface tile field. Processing wastes are discharged to a ridge and furrow irrigation system and satisfactory disposal is being achieved.

(B) Filtro Electric Company Limited - is located on Hillside Drive in Orangeville. This business employs 80 persons and is engaged in the manufacture of small electrical applicances such as toasters, kettles and percolators.

The Division of Industrial Wastes inspected the plant during the month of February, 1965. The sanitary and processing wastes (33,000 gpd) are discharged to the sanitary sewer and WPCP. Under normal circumstances this is acceptable. However, continued care should be exercised that strong plating solutions are chemically treated before discharge to prevent adverse affects at the WPCP.

(C) McCord Corporation - is located in the south-western outskirts of Orangeville. This business employs 70 persons and is engaged in the manufacture of automobile radiators.

All sanitary wastes (2,000 gpd) are discharged to the town sewer system.

The Division of Industrial Wastes inspected the plant during the months of February and March, 1965. The assembly and soldering operations and other rinses, plus spent solutions from the alkali cleanser and acid drip operations (35,000 gpd) are discharged to a waste treatment unit for pH control and solids removal. The effluent from this unit discharges to a watercourse at the rear of the plant which has its confluence with the Orangeville Branch. The unit appears effective in reducing toxic metal ions but the pH of the effluent at 10.4 is not within the range of 5.5 to 9.5 as required by the OWRC. The boiler blowdown is discharged directly to the watercourse.

Every attempt should be made by the company to insure that no adverse conditions result from the operation of the treatment unit. This could be accomplished by connection of the treatment unit's effluent to the town's sewer system, following the recommended enlargement of the secondary treatment unit at the Orangeville WPCP.

The sample analyses are appended to this report.

(D) Remaining Industries - within the town were reported to be discharging sanitary and processing wastes to the sewerage works. No problems were reported at this time.

(5) Discussion of Laboratory Results

Samples were collected from the Credit River and the two tributaries draining the Town of Orangeville. The samples were submitted to the Ontario Water Resources Commission Laboratory for chemical analysis and bacteriological examination. The laboratory results and a glossary of terms are appended to this report.

The chemical and bacteriological quality of the Credit River, in this area was satisfactory. However, the two tributaries of this river receive polluting wastes that deteriorate their water quality.

The Credit River tributary receives the raw sewage which is by-passed at the WPCP. A sample collected for bacteriological examination at sampling point CT-53.5, just downstream from the Orangeville WPCP by-pass, revealed that 24,000 coliform organisms per 100 ml were present. This exceeds the Commission's maximum objective of not greater than 2,400 coliform organisms per 100 ml. The BOD of 1.5 ppm was within the Commission's maximum objective of not greater than 4 ppm for 5 day BOD.

Samples collected from the Orangeville Branch show that wastes with a high bacteriological density are being discharged to this watercourse. The main source of pollution appears

to be downstream from sampling point CO-54.8. The watercourse drains into a culvert which passes beneath a three store plaza with a paved parking lot. The bacterial count increased from 230 coliform organisms per 100 ml on the west side of the plaza (CO-54.8), to 42,000 coliform organisms per 100 ml on the east side (CO-54.7). Pollutants were obviously gaining access to the watercourse beneath the plaza. It was later reported that a source of pollution was located and rectified. Supervision of the drains in this area should be continued to assure that polluting wastes are not discharged to the watercourse. It was noted that a car wash and a Fina service station were directly opposite the aforementioned plaza on West Broadway Avenue. An open ditch (CO-54.7-D) drains storm and runoff waters from the area at the rear and to the north of the Fina station. Oil had been dumped at the rear of this service station and was gaining access to the ditch. The ditch discharges to a culvert passing under the road at outfall point number CO-54.7-W. We assume this culvert discharges beneath the road to the Orangeville Branch, as wastes with the characteristics of oil were found along the stream's banks at CO-54.7. The practice of dumping wastes in streams and along the stream banks should be discontinued.

A bacterial count of 12,000 coliform organisms per 100 ml is indicative of pollution at sampling point CO-54.2.

IV SUMMARY AND CONCLUSIONS

A water pollution survey of the Town of Orangeville was made on August 25, September 2 and 3 and December 15, 1965. Sources of pollution were located and sampled.

The town has a municipal water supply and sewage works. Primary treatment is provided at the WPCP for 0.75 mgd while the reported secondary treatment capacity is 0.16 mgd. Presently the WPCP final effluent is not satisfactory. More secondary treatment is required to effectively treat the wastes. Obstructions in the Credit River downstream from the WPCP's outfall sewer cause high water levels and restricted flow, resulting in septic conditions at the outfall. Raw sewage by-passing to the Credit River tributary occurs at times of excessive flows. Sanitary sewer extension to correct a public health problem in the Township of Mono is recommended, however any further extensions should await the enlargement of the secondary treatment unit at the Orangeville Water Pollution Control Plant.

Industrial processing wastes and domestic sewage from Gillespie's Dairy are treated satisfactorily in a private system.

Processing wastes from the McCord Corporation were investigated by the Industrial Wastes Division and found to be treated in a private unit and discharged to a watercourse. The pH of this effluent is slightly in excess of the OWRC objectives. Sanitary wastes are discharged to the municipal sewers.

Filtro Electric Company's processing and sanitary wastes are discharged to the municipal sewer system. An Industrial Waste's survey showed that the plating solutions should continue to be chemically treated prior to discharge.

All other industrial effluents were reported to be satisfactory in their discharge to the sewer system.

Refuse disposal is achieved at the municipally owned and operated sanitary landfill site.

Sampling and testing of the Orangeville Branch has shown that it is of a satisfactory chemical quality, but the bacteriological parameter is in excess of the Commission's objective. A reduction in the bacteriological density can be anticipated since a waste discharge to this stream has been eliminated. The Credit River tributary is receiving by-passed raw sewage from the WPCP during times of excess flow. This discharge is causing deterioration of the water quality. A study to eliminate infiltration in the sanitary sewer system should be carried out to reduce the flow to the plant, thereby lessening the need for by-passing at times of heavy precipitation or runoff. A higher degree of quality for the surface waters in the Town of Orangeville can only be obtained by an effective water impairment prevention programme designed to eliminate all possible sources of pollution.

Based on the grab samples taken from the Credit River downstream from Orangeville, the chemical and bacteriological results

were within the Commission's objectives for surface waters.

V RECOMMENDATIONS

1. Additional secondary treatment capacity should be provided for the Orangeville Water Pollution Control Plant.
2. Sanitary sewer extension to an area in the Township of Mono, immediately north of Orangeville on Highway No. 10, is recommended. The inclusion of any further sewage flows should await the enlargement of the secondary treatment unit at the Orangeville communal sewage works.
3. An infiltration study should be made of the sanitary sewer system to determine the additional hydraulic load.
4. The obstructions should be removed from the Credit River downstream from the Orangeville Water Pollution Control Plant outfall sewer.
5. The Town of Orangeville should institute a water impairment prevention programme to eliminate the discharge of raw or partially treated wastes from any municipal or private drains.

All of which is respectfully submitted,

Approved by:

/elb

C.E. McIntyre, P.Eng.,
District Engineer,
Div. of Sanitary Engineering.

Prepared by: C.L. Young,
Engineer's Assistant.

APPENDIX

GLOSSARY OF TERMS

Bacteriological Examinations - The Membrane Filter technique is used to obtain a direct enumeration of coliform organisms. These organisms are the normal inhabitants of the intestines of man and other warm-blooded animals. They are always present in large numbers in sewage and are, in general, relatively few in number in other stream pollutants. The results are reported as M.F. coliform count per 100 millilitres.

Biochemical Oxygen Demand (BOD) - The BOD test indicates the amount of oxygen required for stabilization of the decomposable organic matter found in the sewage, sewage effluent, polluted waters or industrial wastes by aerobic biochemical action. The time and temperature used are 5 days and 20°C respectively.

Gallon - denotes Imperial gallon unless otherwise noted.

MGD - denotes millions of gallons per day.

pH - The pH value of a water indicates its relative acidity or alkalinity. A neutral water has a pH of 7.0. Higher values are in the alkaline range and the lower in the acid range.

Oils and Ether Soluble Materials - These include oils and all other ether soluble materials such as tarry substances and greases. The presence of these pollutants renders water difficult and sometimes impractical to treat, either for industrial or domestic use. Oils make the stream unsightly and the water unfit for bathing. They

coat water craft and are a hazard to wild fowl.

Phenolic Compounds - Phenols and phenolic equivalents were measured by the Gibbs Method with modifications. Phenols react with chlorine to produce intensely aromatic compounds. These compounds, even when highly diluted, may give a taste and odour to the water which is variously described as medicinal, chemical or iodoform. Phenols taint fish and are toxic to fish, depending on the concentration. Normal water contains no phenolic compounds.

Solids - The analyses for solids include tests for total, suspended and dissolved solids. The former measures both the solids in solution and in suspension. Suspended solids indicate the measure of undissolved solids of organic or inorganic nature, whereas the dissolved solids are a measure of those solids in solution.

Water Quality and Effluent Objectives - The desirable objectives for all surface waters in the Province of Ontario are as follows:

5-Day BOD	- not greater than 4 ppm
M.F. Coliform Count Median Value	- not greater than 2,400 per 100 ml.
Phenolic Equivalents	<ul style="list-style-type: none"> - average - maximum
pH Range	- 6.7 to 8.5

A few pertinent maximum concentration limits of contaminants in storm sewers, sewage treatment plant and industrial waste effluents are listed below. It is noted that adequate protection for surface waters, except in certain specific instances influenced

by local conditions, should be provided if the following concentrations and pH range are not exceeded.

5-Day BOD	- not greater than 15 ppm
Suspended Solids	- not greater than 15 ppm
Phenolic Equivalents	- not greater than 20 ppb
Ether Solubles (oil)	- not greater than 15 ppm
pH Range	- 5.5 to 9.5
Iron	- not greater than 15 ppm.

TOWN OF ORANGEVILLE

SAMPLE ANALYSES

TABLE I

<u>Sampling Point No.</u>	<u>Description</u>	<u>Date</u>	<u>5-Day BOD (ppm)</u>	<u>SOLIDS (ppm)</u>		<u>M.F. Coliform Count/100 ml</u>
C-52.0	Credit River at Hwy. No.10 (Caledon Twp.)	Aug. 25/65.	1.3	406	3	403
C-52.3 W	24-inch concrete storm sewer west of John St. at the town limits draining to a ditch.	Sept. 3/65.	NO FLOW NOTED			
CT-53.5	Credit River Tributary just downstream from Orangeville WPCP by-pass.	Aug. 25/65.	1.5	596	19	577
CT-53.5 S	36" concrete by-pass with metal door lock South of Town Line. Opens onto the above-mentioned tributary.	Sept. 3/65.	NO FLOW NOTED			
C-53.6	Credit River at South Town Line.	Aug. 25/65.	1.2	340	2	338
C-53.7 D	Ditch on South Side of Hwy. No.10 which drains this area.	Sept. 3/65.	NO FLOW NOTED			

TOWN OF ORANGEVILLE

SAMPLE ANALYSES

TABLE I (CONTINUED)

<u>Sampling Point No.</u>	<u>Description</u>	<u>Date</u>	<u>5-Day BOD (ppm)</u>	<u>SOLIDS (ppm)</u>		<u>M.F. Coliform Count/100 ml</u>
				<u>Total</u>	<u>Susp.</u>	<u>Diss.</u>
C-53.8 D	Ditch on north side of Hwy. No. 10 which drains this area.	Sept. 3/65.	NO FLOW NOTED			
C-53.9 W	12-inch corrugated iron storm sewer north-east corner of Sherbourne St. & Hwy. No. 10 drains to a ditch.	Sept. 3/65.	NO FLOW NOTED			
C-54.6	Credit River at Ketchum St.	Aug. 25/65.	1.0	326	4	322
CO-54.0 W	36-inch corrugated iron storm sewer south of East Broadway Ave. at foot of bridge.	Sept. 3/65.	NO FLOW NOTED			
CO-54.2	Orangeville Branch at Wellington St.	Aug. 25/65.	0.4	474	4	470
CO-54.2 W.	12-inch concrete storm sewer under north-east corner of Wellington and Front Streets.	Sept. 3/65.	NO FLOW NOTED			12,000

TOWN OF ORANGEVILLE

SAMPLE ANALYSES

TABLE I (CONTINUED)

<u>Sampling Point No.</u>	<u>Description</u>	<u>Date</u>	<u>5-Day BOD (ppm)</u>	<u>SOLIDS (ppm)</u>		<u>M.F. Coliform Count/100 ml</u>
				<u>Total</u>	<u>Susp.</u>	<u>Diss.</u>
CO-54.2 W-1	10-inch corrugated iron storm sewer south-east corner of Wellington and Front Streets.	Sept. 3/65.	NO FLOW NOTED			
CO-54.2 W-2	12-inch concrete storm sewer under south-east corner of Wellington and Front Streets.	Sept. 3/65.	NO FLOW NOTED			
CO-54.2 W-3	12-inch concrete storm sewer under center of Wellington St. and running north from Front St.	Sept. 3/65.	NO FLOW NOTED			
CO-54.2 W-4	12-inch concrete storm sewer, south-west corner of Wellington and Front Streets.	Sept. 3/65.	NO FLOW NOTED			
CO-54.2 W-5	12-inch concrete storm sewer under centre of Wellington St. and running south from East Broadway Ave.	Sept. 3/65.	NO FLOW NOTED			

TOWN OF ORANGEVILLE

SAMPLE ANALYSES

TABLE I (CONTINUED)

<u>Sampling Point No.</u>	<u>Description</u>	<u>Date</u>	5-Day BOD (ppm)	<u>SOLIDS (ppm)</u>		M.F. Coliform	
				Total	Susp.	Diss.	<u>Count/100 ml</u>
CO-54.5 W	10-inch corrugated iron storm sewer north-east corner of John St. bridge north of C.P.R. tracks.	Sept. 3/65	NO FLOW NOTED				
CO-54.5 W-1	10-inch corrugated iron storm sewer south-east corner of John Street bridge north of CPR tracks.	Sept. 3/65.	NO FLOW NOTED				
CO-54.5 W-2	10-inch corrugated iron storm sewer south-west corner of John St. bridge north of CPR tracks.	Sept. 3/65.	NO FLOW NOTED				
CO-54.5 W-3	10-inch corrugated iron storm sewer north-west corner of John St. bridge north of CPR tracks.	Sept. 3/65.	NO FLOW NOTED				

TOWN OF ORANGEVILLE

SAMPLE ANALYSES

TABLE I (CONTINUED)

<u>Sampling Point No.</u>	<u>Description</u>	<u>Date</u>	<u>5-Day BOD (ppm)</u>	<u>SOLIDS (ppm)</u>			<u>M.F. Coliform Count/100 ml</u>
CO-54.7	Orangeville Branch east of plaza and east of Centre St. south of west Broadway Ave.	Sept. 3/65.	2.1	438	4	434	42,000
CO-54.7 D	Drainage ditch running from south of Zina St. and west of Clara St.	Sept. 3/65. Dec. 15/65.		FLOW INSUFFICIENT FOR SAMPLING FLOW INSUFFICIENT FOR SAMPLING			
CO-54.7 W	18-inch corrugated iron culvert pipe north side of West Broadway and west of Clara St. adjacent to Fina Stn. Serving a drainage ditch.	Dec. 15/65.		FLOW INSUFFICIENT FOR SAMPLING			

TOWN OF ORANGEVILLE

SAMPLE ANALYSES

TABLE I (CONTINUED)

<u>Sampling Point No.</u>	<u>Description</u>	<u>Date</u>	<u>5-Day BOD (ppm)</u>	<u>SOLIDS (ppm)</u>			<u>pH at Lab.</u>	<u>M.F. Coliform Count/100 ml</u>
CO-54.8	Orangeville Branch west of plaza, east of Dawson Rd. and south of West Broadway Ave.	Sept. 3/65.	0.8	452	3	449		230
CO-54.9 I	Effluent from McCord Corporation Treatment Unit.	March 2/65. Sept. 3/65.	456	14	442		10.4	
			INSPECTED AND FLOW NOTED					
CO-55.3	Orangeville Branch at West Broadway Ave. west of Banting Dr.	Sept. 3/65.	0.9	382	31	351		1,470

